

Test Report No.10041776 001

Appendix D: Radiated Spurious Emission Data

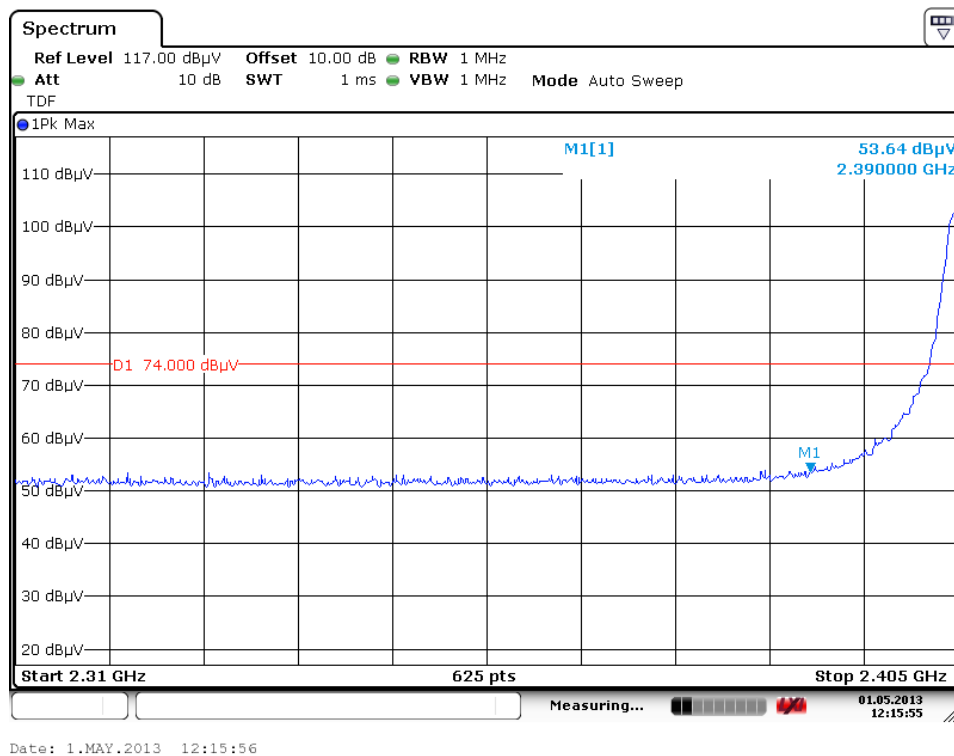
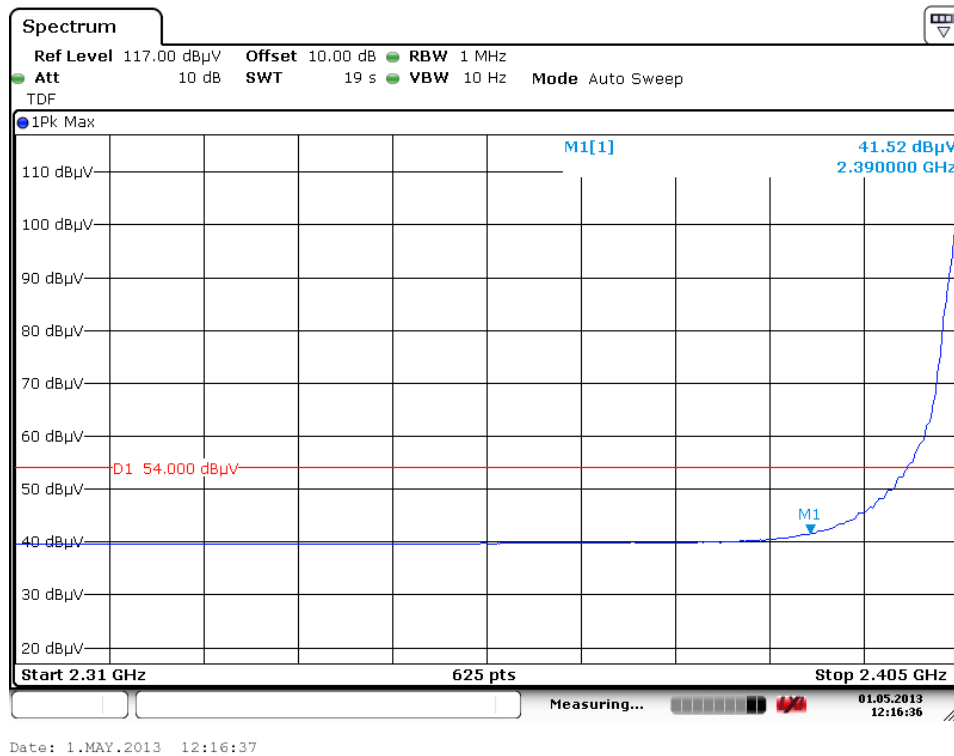
(File: 10041776AppendixD)

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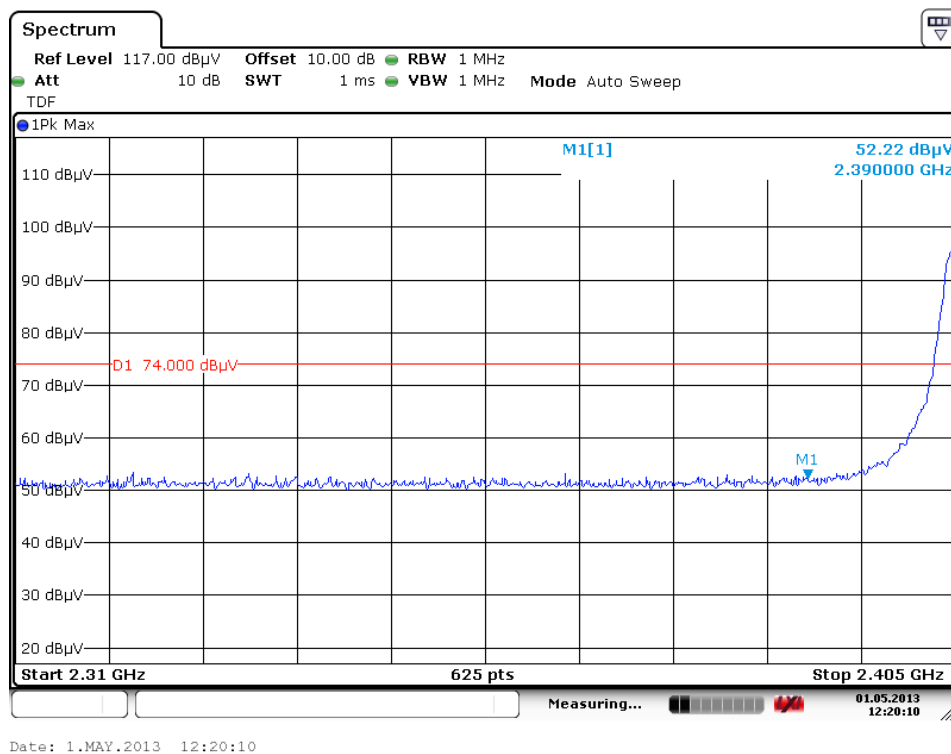
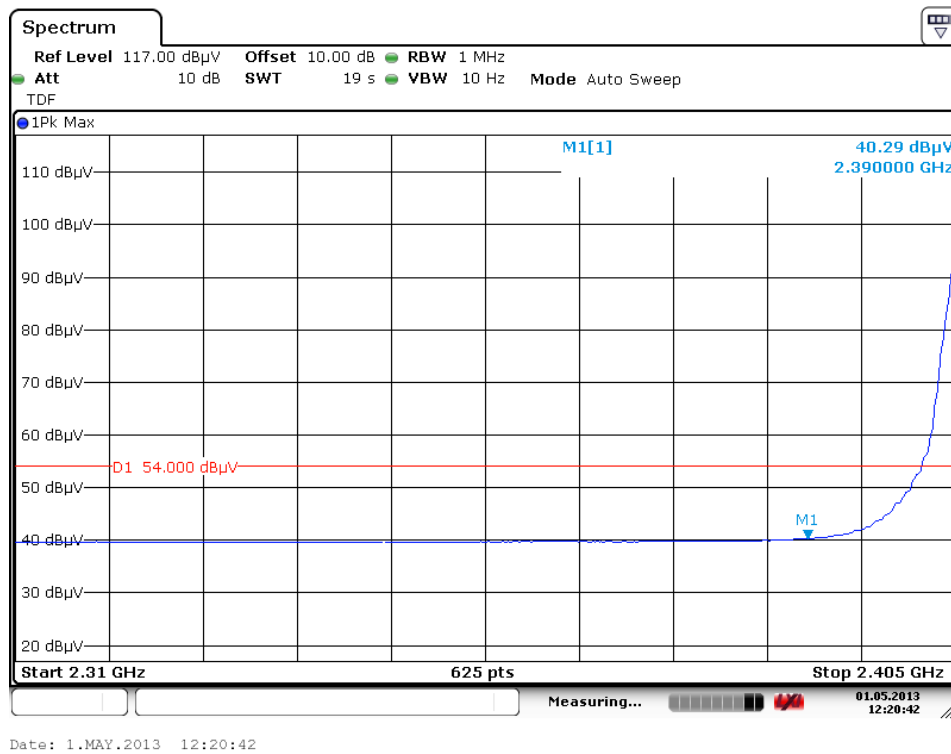
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Radiated Bandedge

Low Channel (Hor)



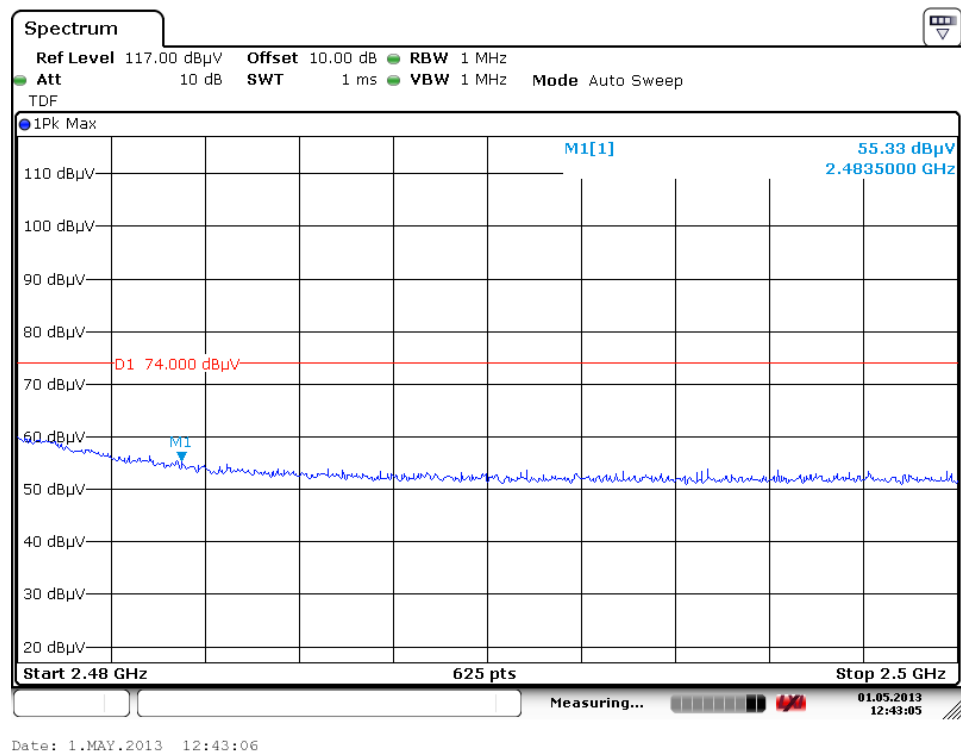
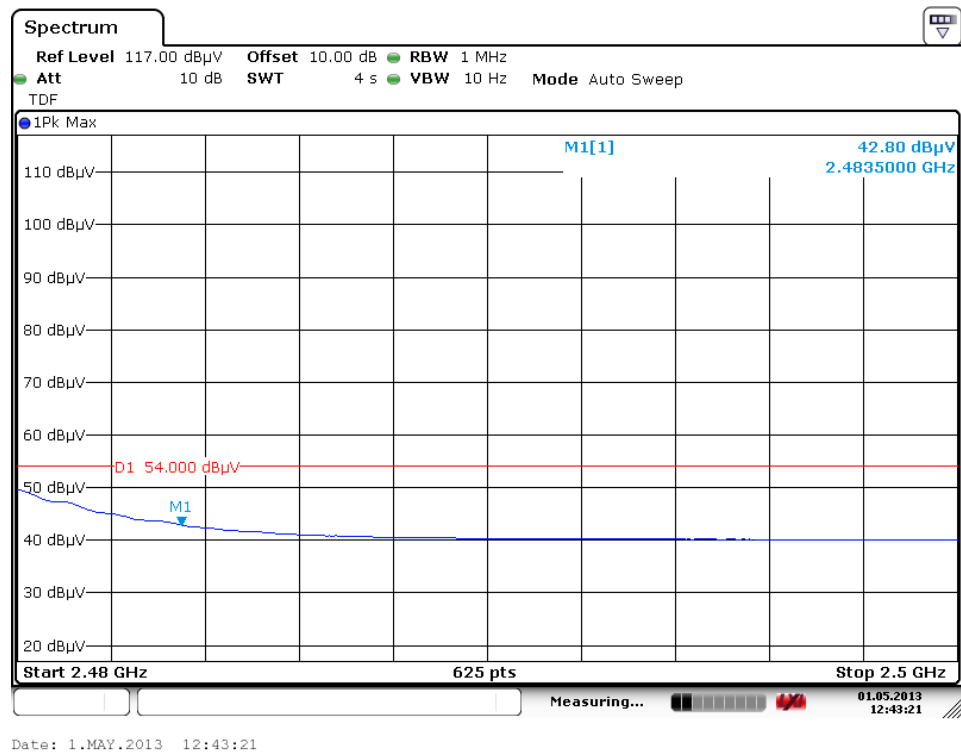
Low Channel (Ver)



Spurious Emissions, Band Edge, 2.35-2.5G

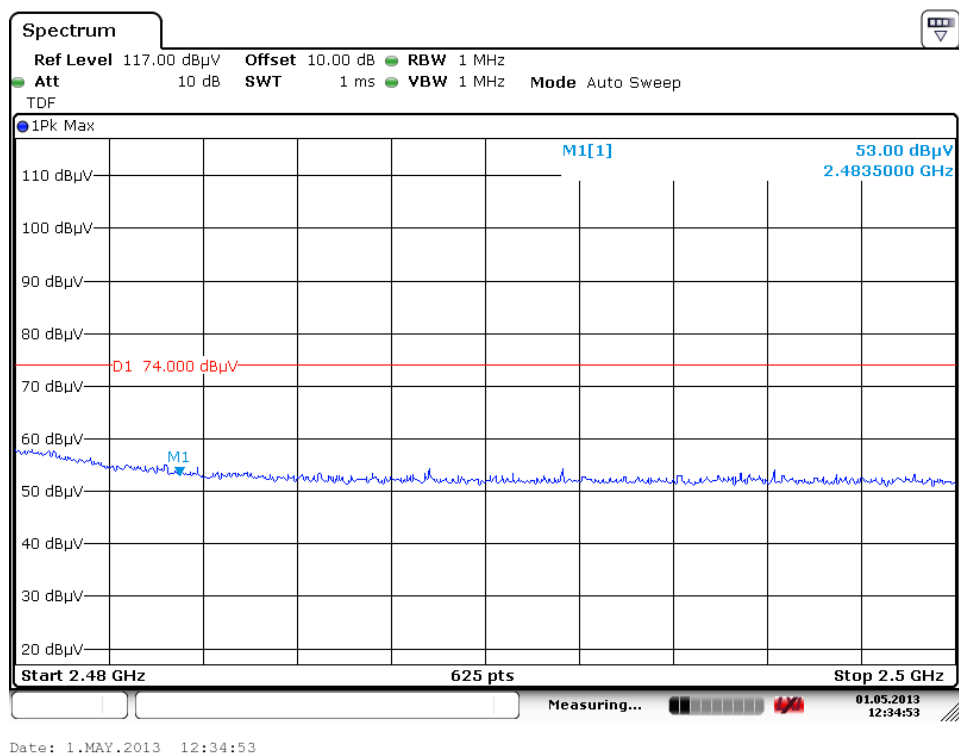
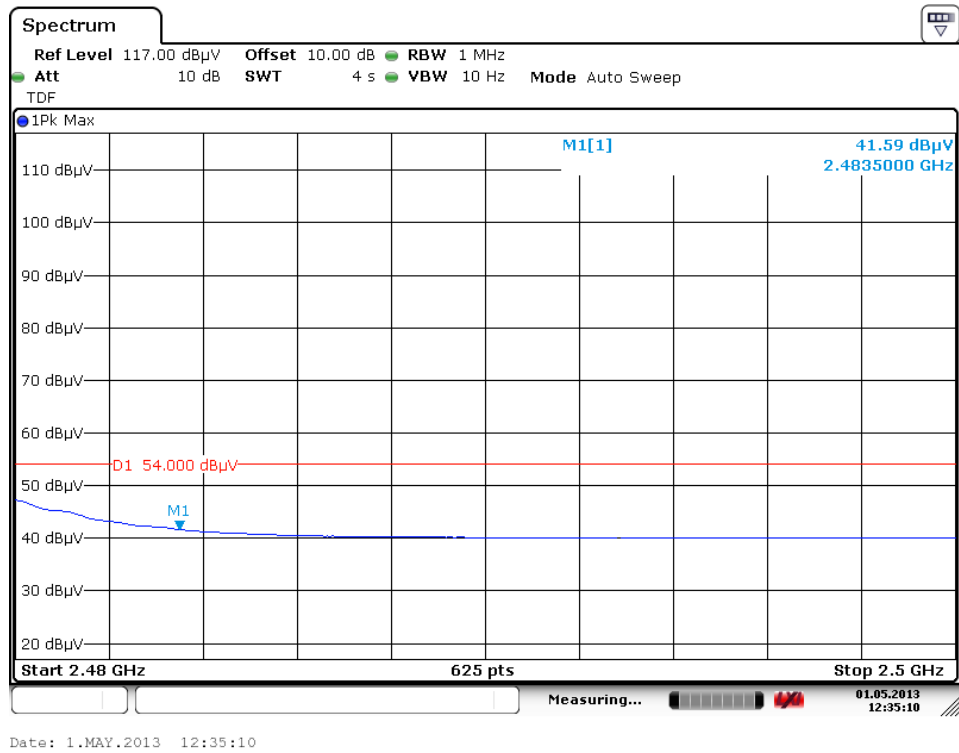
Radiated Bandedge

High Channel (Hor) 2475



Spurious Emissions, Band Edge, 2.35-2.5G

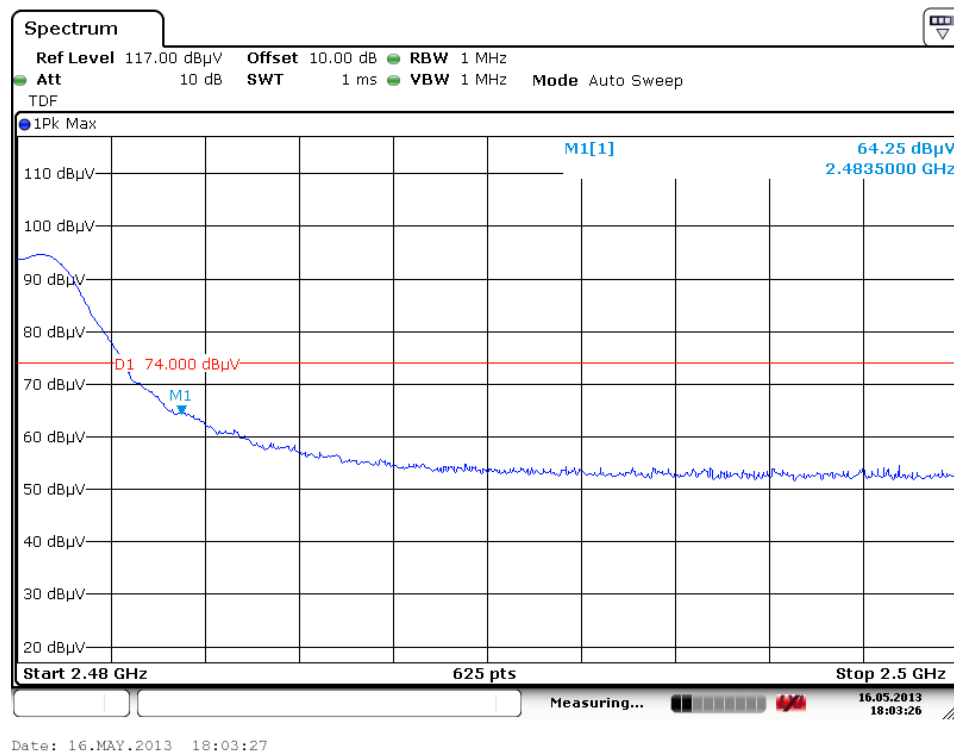
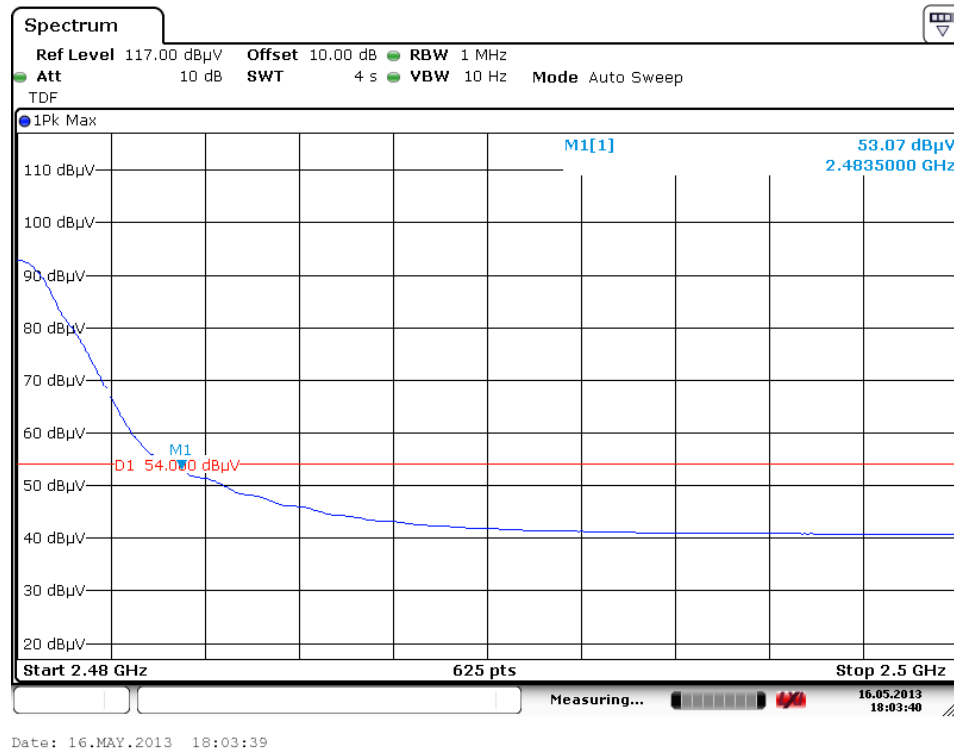
High Channel (Ver) 2475



Spurious Emissions, Band Edge, 2.35-2.5G

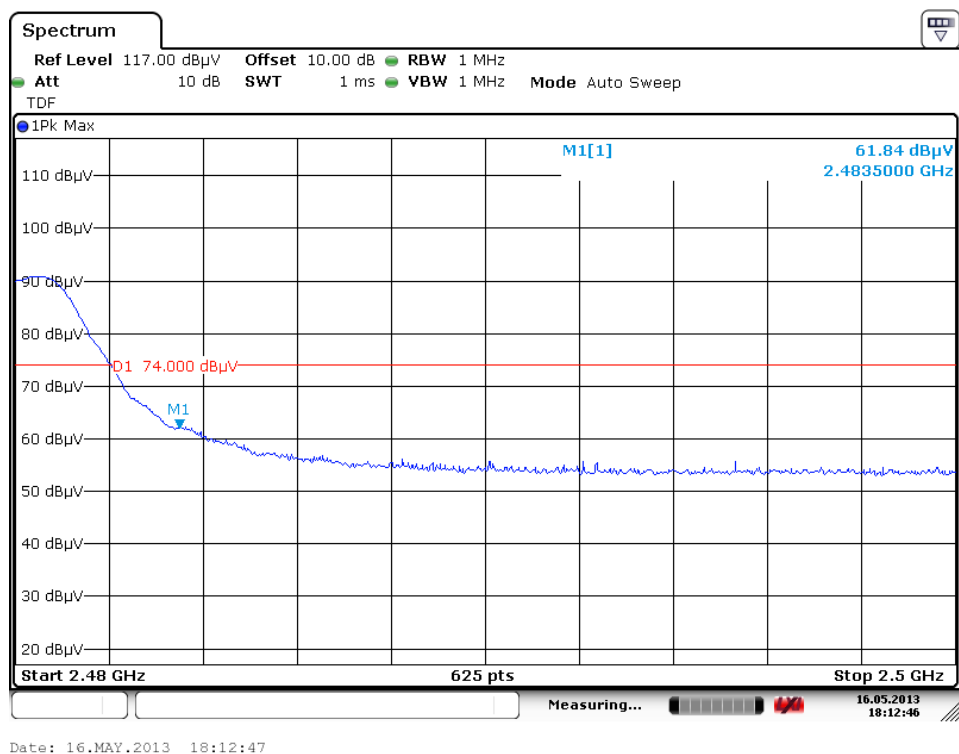
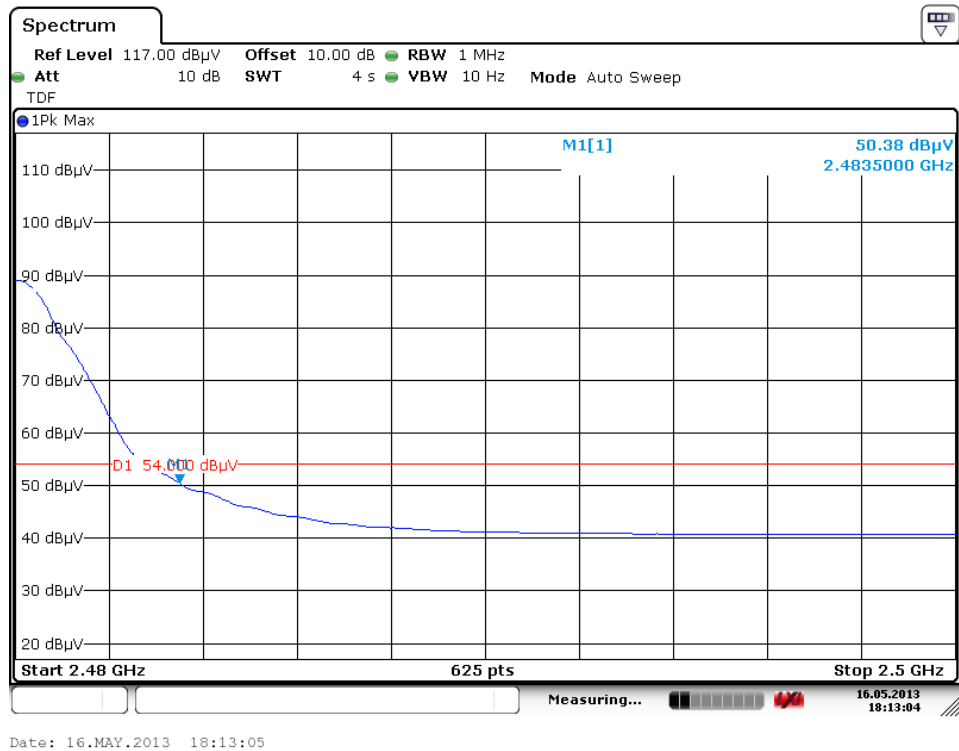
Radiated Bandedge

High Channel (Hor) 2480



Spurious Emissions, Band Edge, 2.35-2.5G

High Channel (Ver) 2480



Spurious Emissions, Band Edge, 2.35-2.5G

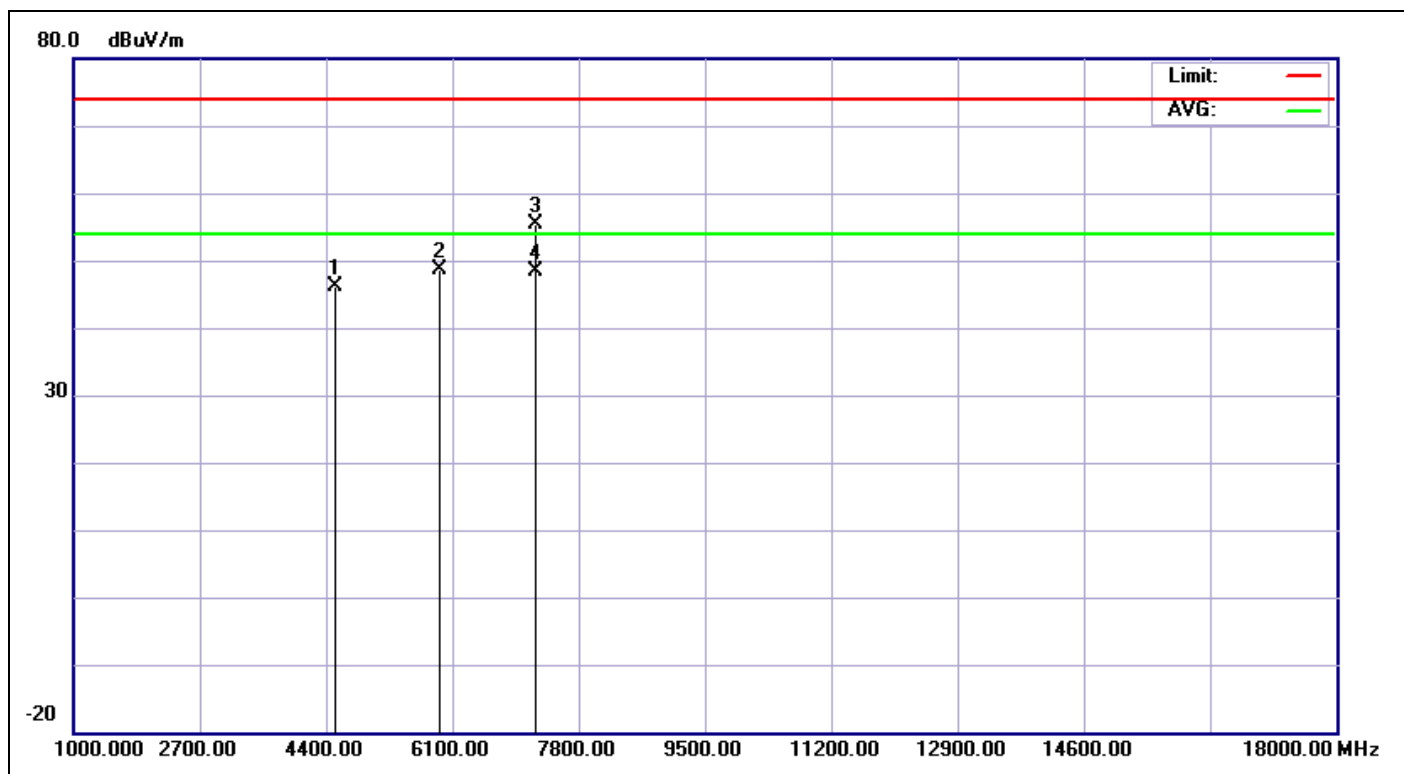
Spurious Emissions, TX Mode, 1-18G



TUV Taiwan

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Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/5/1 PM 12:42:01

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 23(°C)/56%

Model No.: AT357A

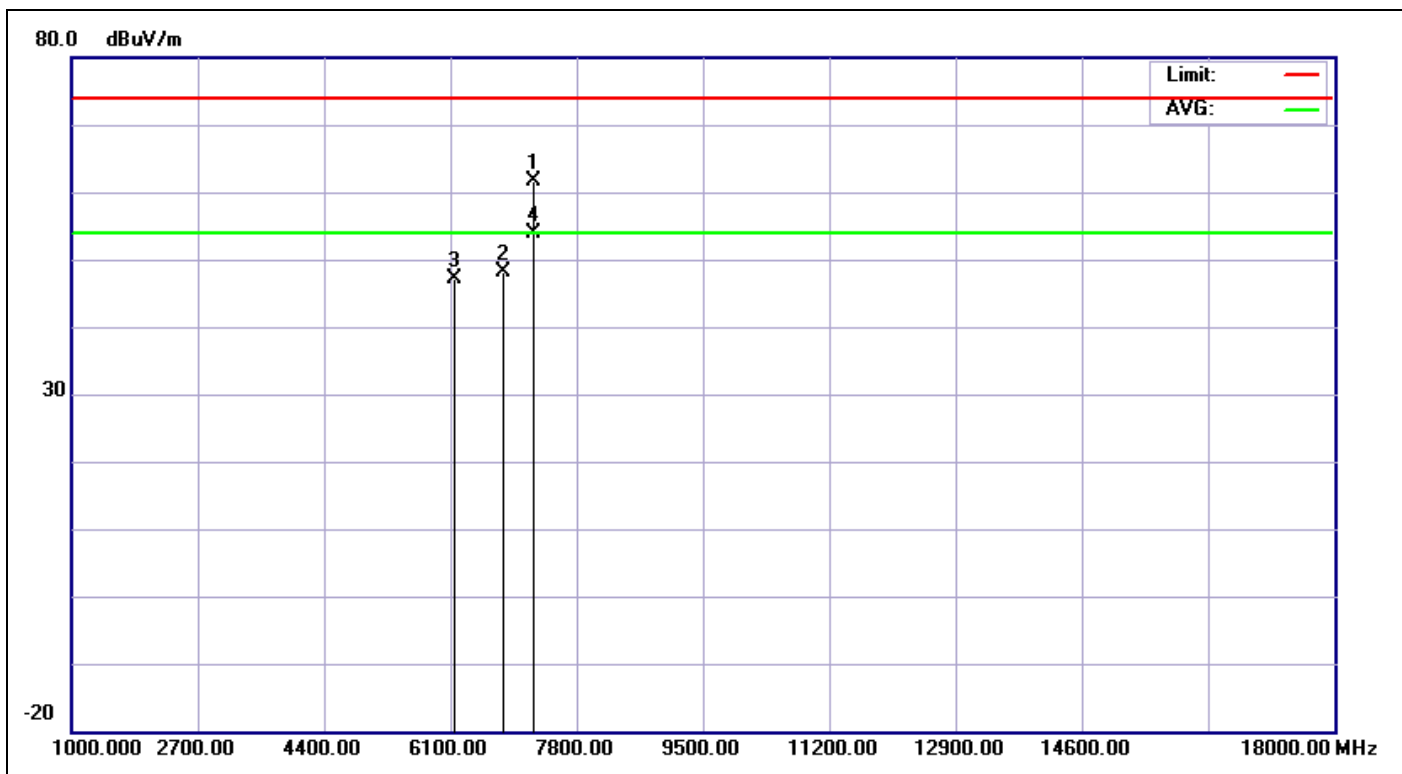
Test Engineer: Hugo Chang

Test Mode: CH2405

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4514.423	-3.49	49.61	46.12	74.00	-27.88	peak			
2	5931.090	3.21	45.47	48.68	74.00	-25.32	peak			
3	7211.538	5.44	49.86	55.30	80.72	-25.42	peak			
4	7211.538	5.44	42.84	48.28	78.78	-30.50	AVG			

Spurious Emissions, TX Mode, 1-18G



Service No.: 113162303-AT357

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/1/31 AM 11:00:31

Applicant: TUVR Singapore

Test Rating: DC 3.3V

Product: Zigbee Module

Temp.(°C)/Hum.(%): 22(°C)/59%

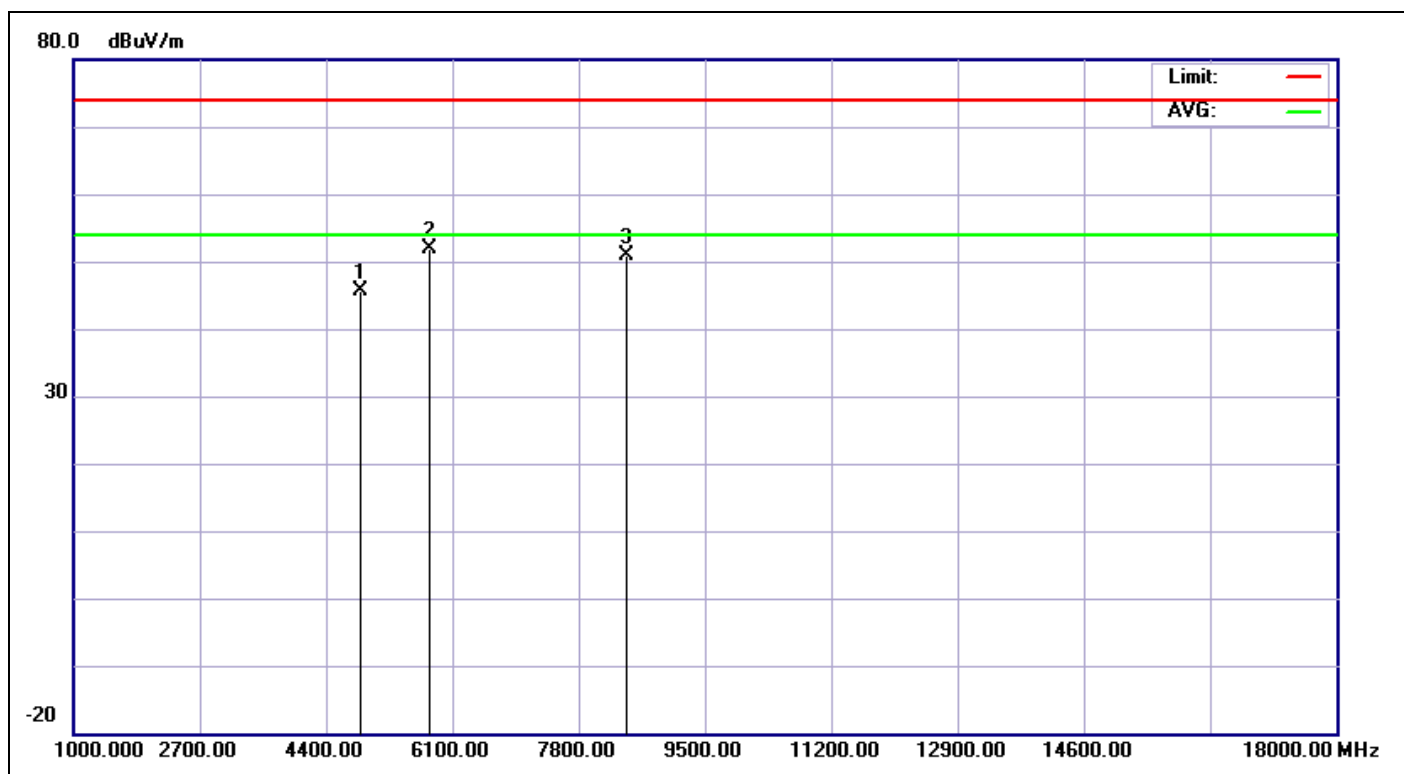
Model No.: AT357

Test Engineer: Hugo Chang

Test Mode: CH2405 TX

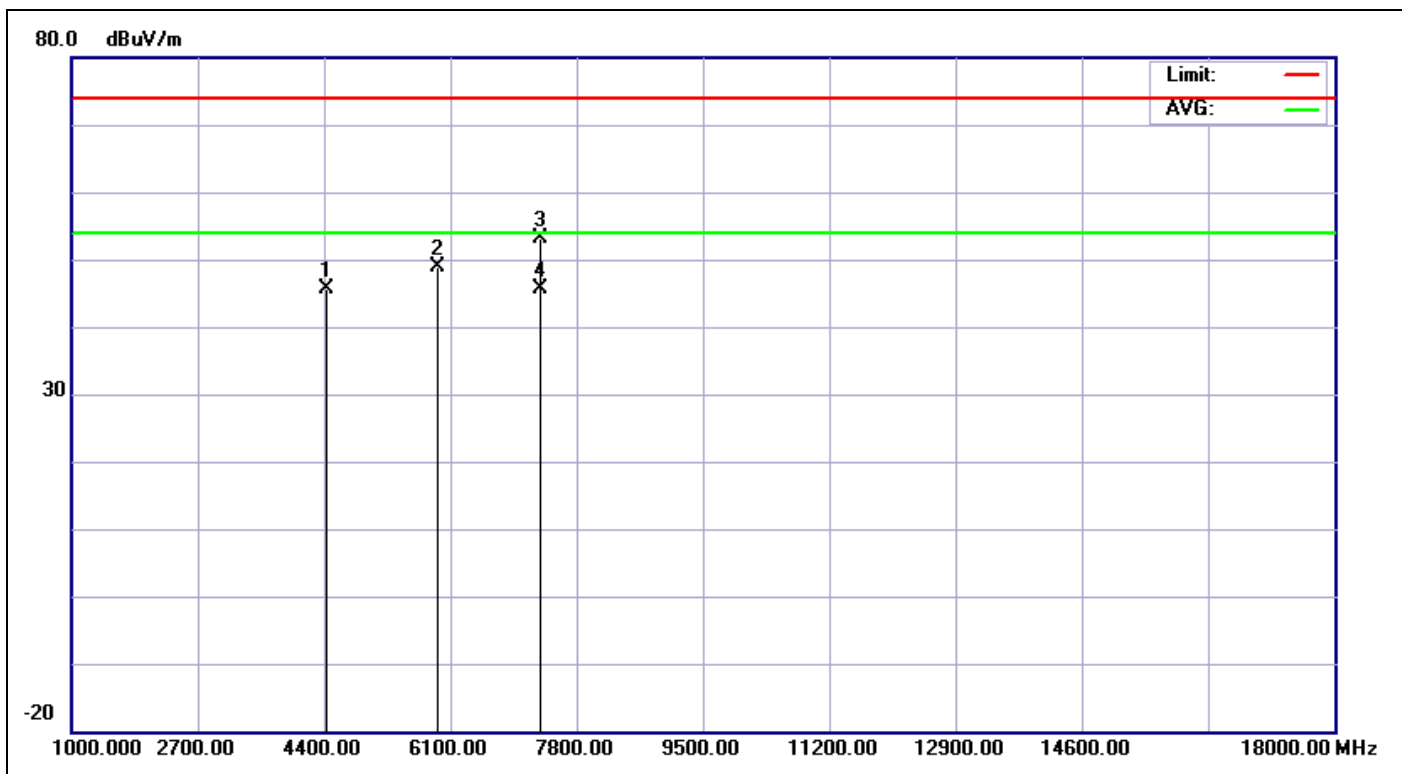
Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	7225.000	6.44	55.15	61.59	76.51	-14.92	peak	100	0	
2	6817.000	5.32	42.70	48.02	74.00	-25.98	peak	100	0	
3	6164.000	3.48	43.69	47.17	74.00	-26.83	peak	100	0	
4	7225.000	6.44	47.40	53.84	74.57	-20.73	AVG			



Service No.:	114008287_AT357A	Test Distance:	3M
Test Standard:	FCC above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/5/1 PM 01:01:03
Applicant:	AAC	Test Rating:	DC 3V
Product:	ZigBee module	Temp.(°C)/Hum.(%):	20(°C)/57%
Model No.:	AT357A	Test Engineer:	Hugo Chang
Test Mode:	CH2445		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4868.590	-2.57	48.26	45.69	74.00	-28.31	peak			
2	5794.872	2.26	49.66	51.92	74.00	-22.08	peak			
3	8437.500	6.41	44.59	51.00	74.00	-23.00	peak			

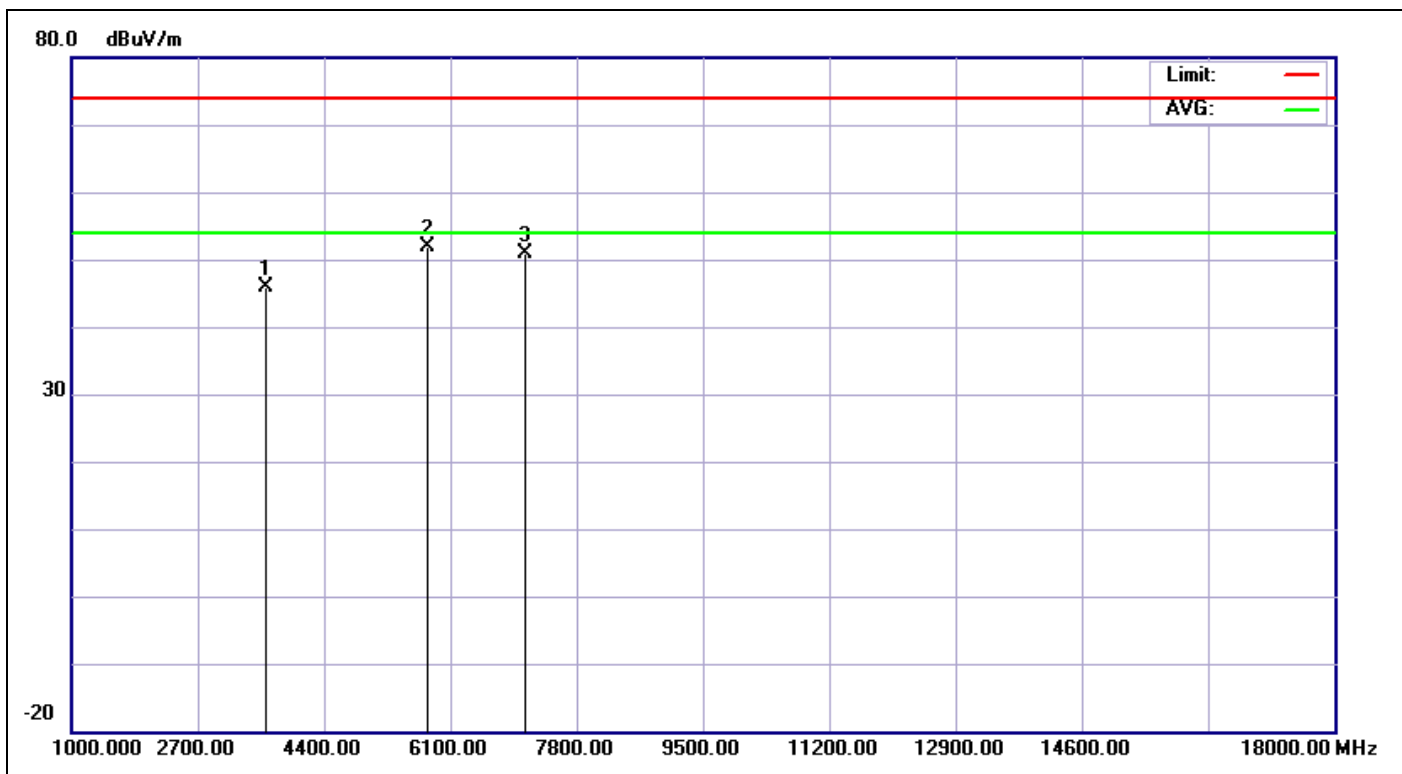


Service No.: 114008287_AT357A
 Test Standard: FCC above 1G PEAK
 Test item: Radiation Emission
 Applicant: AAC
 Product: ZigBee module
 Model No.: AT357A
 Test Mode: CH2445

Test Distance: 3M
 Ant. Polarization: Vertical
 Test Time: 2013/5/1 PM 01:03:01
 Test Rating: DC 3V
 Temp.(°C)/Hum.(%): 20(°C)/57%
 Test Engineer: Hugo Chang

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4432.692	-3.80	49.36	45.56	74.00	-28.44	peak			
2	5931.090	3.21	45.63	48.84	74.00	-25.16	peak			
3	7320.513	5.74	47.46	53.20	74.00	-20.80	peak			
4	7320.513	5.74	39.85	45.59	54.00	-8.41	AVG			

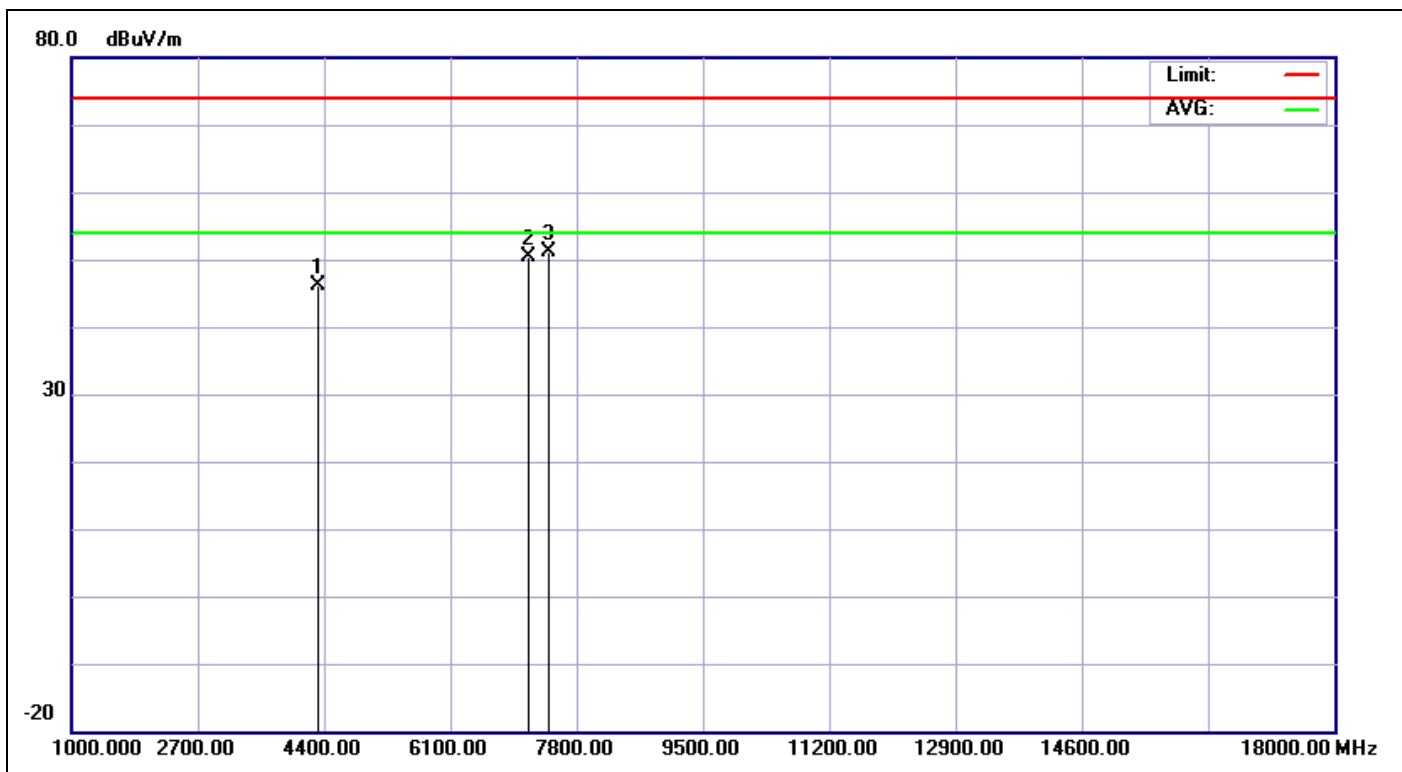


Service No.: 114008287_AT357A
 Test Standard: FCC above 1G PEAK
 Test item: Radiation Emission
 Applicant: AAC
 Product: ZigBee module
 Model No.: AT357A
 Test Mode: CH2475

Test Distance: 3M
 Ant. Polarization: Horizontal
 Test Time: 2013/5/1 PM 01:06:37
 Test Rating: DC 3V
 Temp.(°C)/Hum.(%): 20(°C)/57%
 Test Engineer: Hugo Chang

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3615.385	-5.77	51.56	45.79	74.00	-28.21	peak			
2	5794.872	2.26	49.52	51.78	74.00	-22.22	peak			
3	7102.564	5.13	45.80	50.93	74.00	-23.07	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:08:39

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

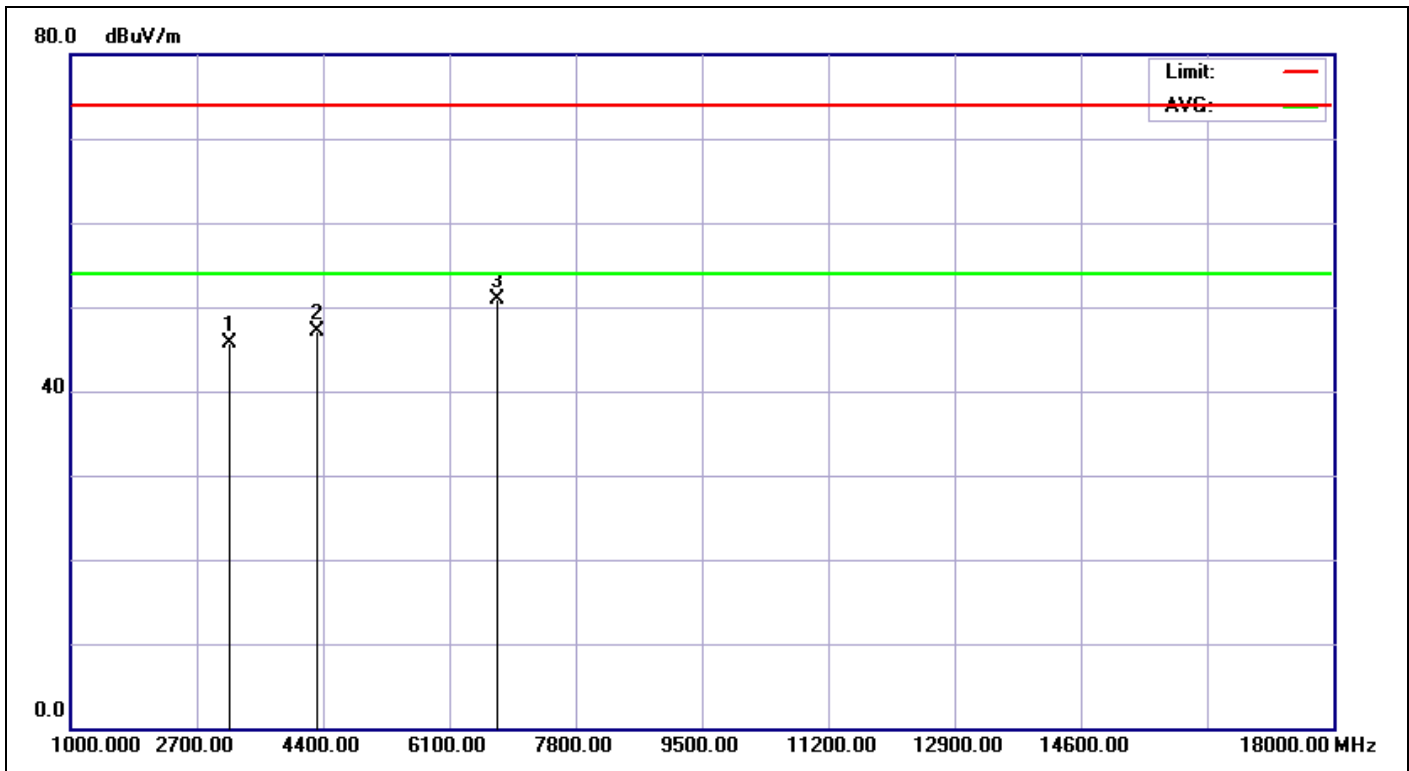
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4323.718	-4.22	50.45	46.23	74.00	-27.77	peak			
2	7157.051	5.29	45.05	50.34	74.00	-23.66	peak			
3	7429.487	6.05	45.17	51.22	74.00	-22.78	peak			

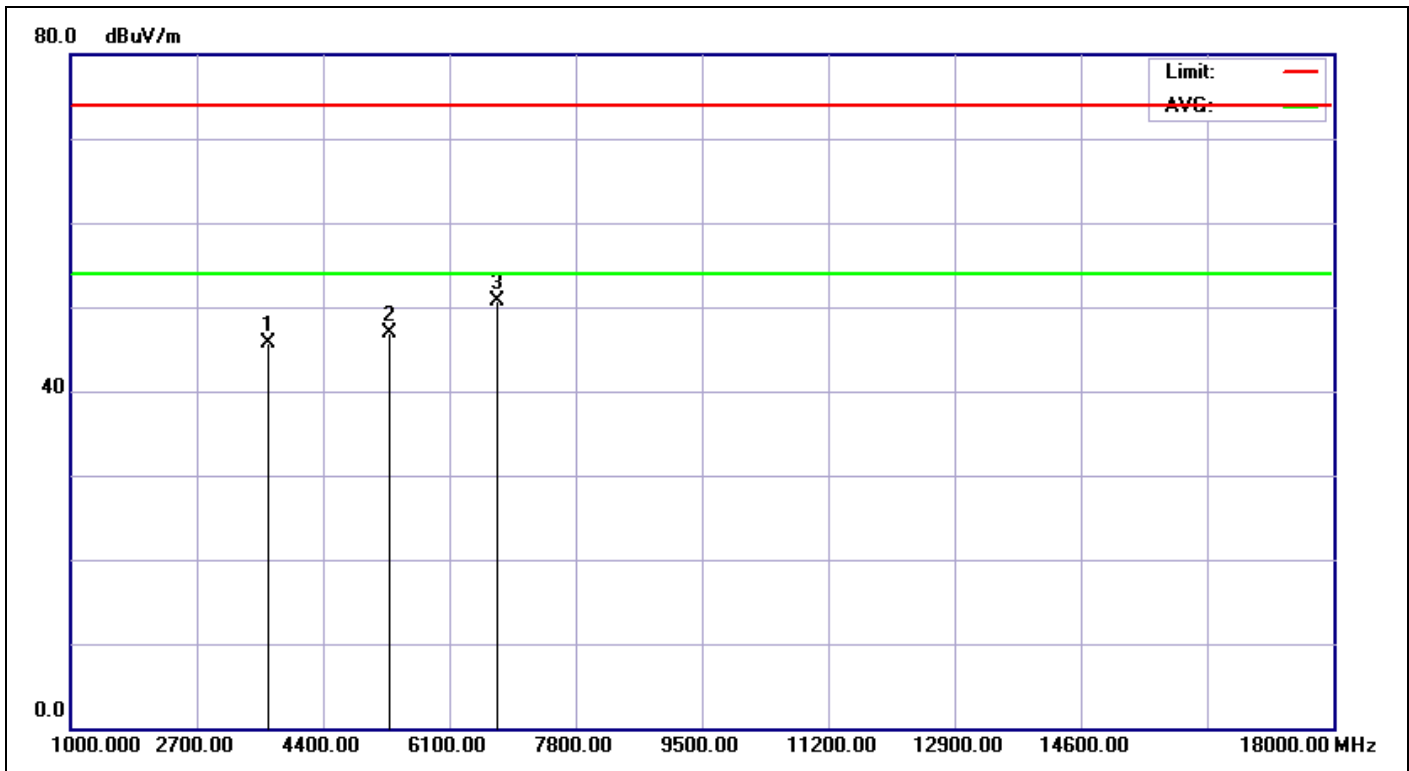


Service No.: 114008287_AT357A
 Test Standard: FCC above 1G PEAK
 Test item: Radiation Emission
 Applicant: AAC
 Product: ZigBee module
 Model No.: AT357A
 Test Mode: CH2480

Test Distance: 3M
 Ant. Polarization: Horizontal
 Test Time: 2013/5/16 PM 06:11:40
 Test Rating: DC 3V
 Temp.(°C)/Hum.(%): 23(°C)/61%
 Test Engineer: Hugo Chang

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3152.244	-6.32	52.05	45.73	74.00	-28.27	peak			
2	4323.718	-4.22	51.24	47.02	74.00	-26.98	peak			
3	6748.397	5.14	45.81	50.95	74.00	-23.05	peak			



Service No.:	114008287_AT357A	Test Distance:	3M
Test Standard:	FCC above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/5/16 PM 06:13:25
Applicant:	AAC	Test Rating:	DC 3V
Product:	ZigBee module	Temp.(°C)/Hum.(%):	23(°C)/61%
Model No.:	AT357A	Test Engineer:	Hugo Chang
Test Mode:	CH2480		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3669.872	-5.74	51.35	45.61	74.00	-28.39	peak			
2	5304.487	-0.73	47.61	46.88	74.00	-27.12	peak			
3	6748.397	5.14	45.57	50.71	74.00	-23.29	peak			

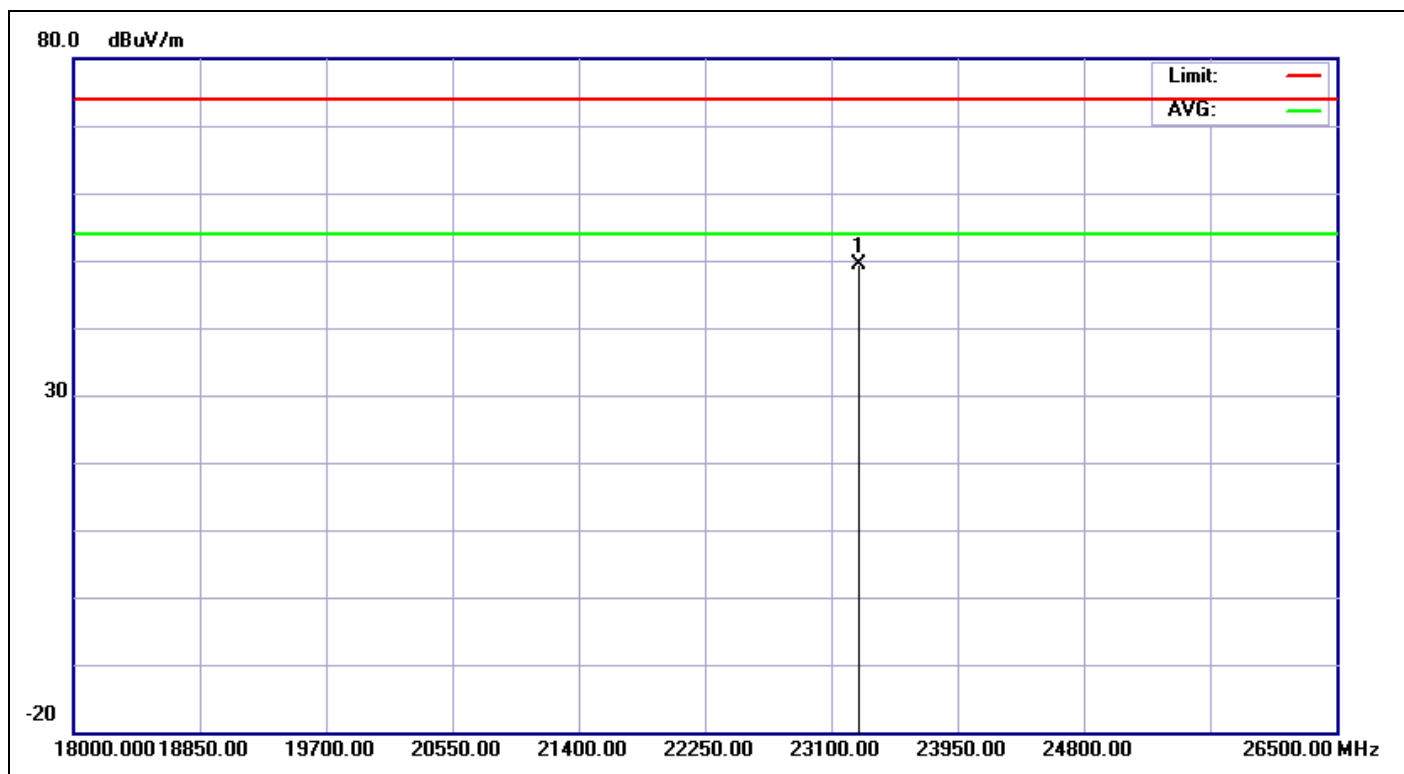
Spurious Emissions, TX Mode, 18-26G



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Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:27:31

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

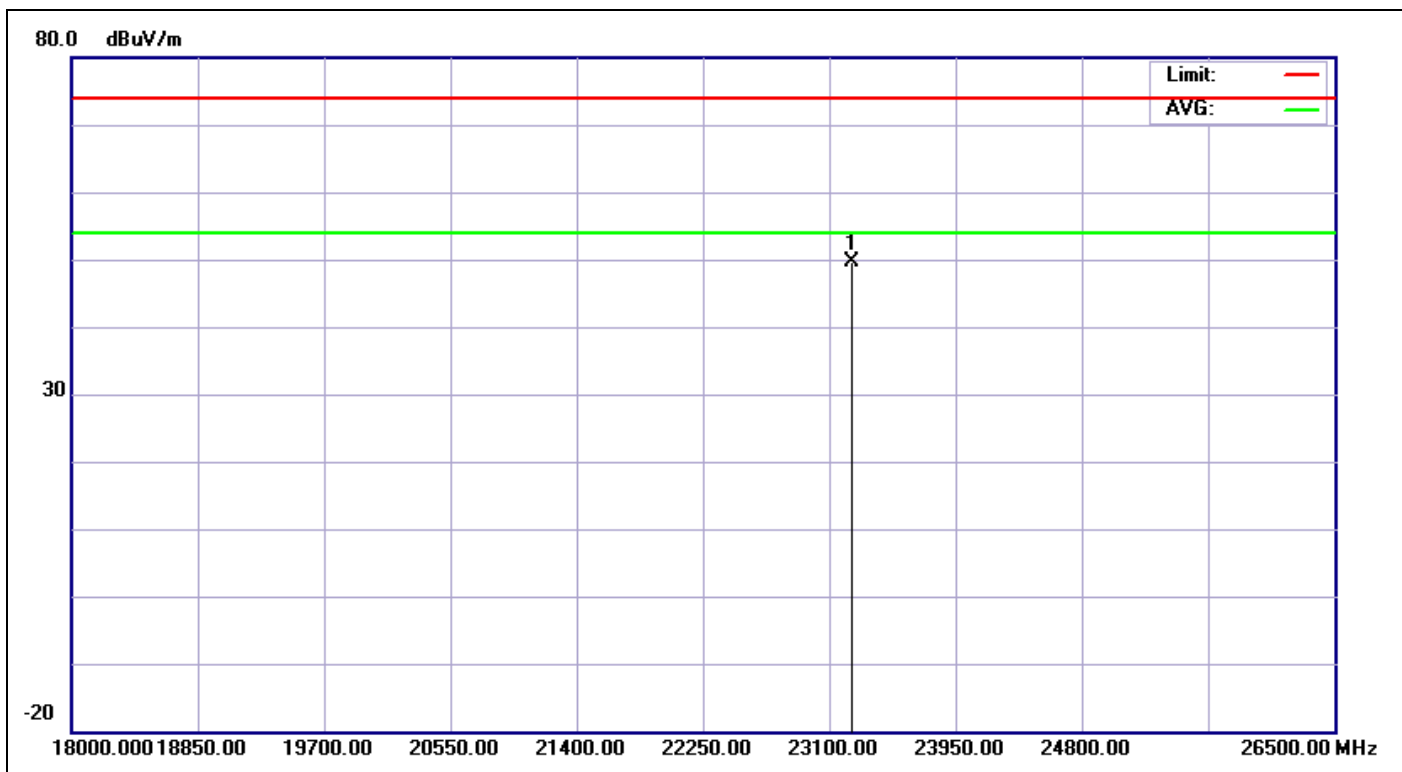
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2405

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23285.256	30.19	19.13	49.32	74.00	-24.68	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:28:08

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

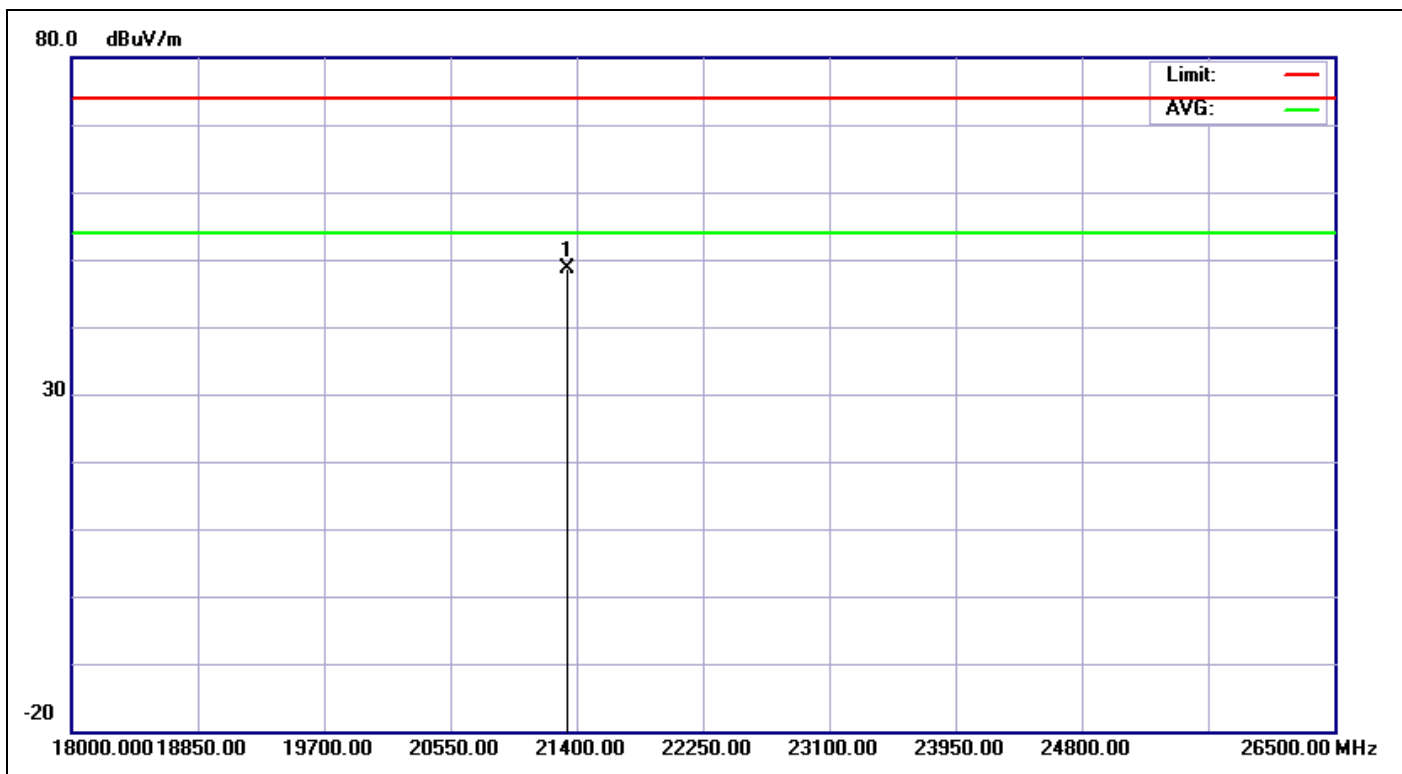
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2405

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23258.013	30.20	19.38	49.58	74.00	-24.42	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:28:43

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

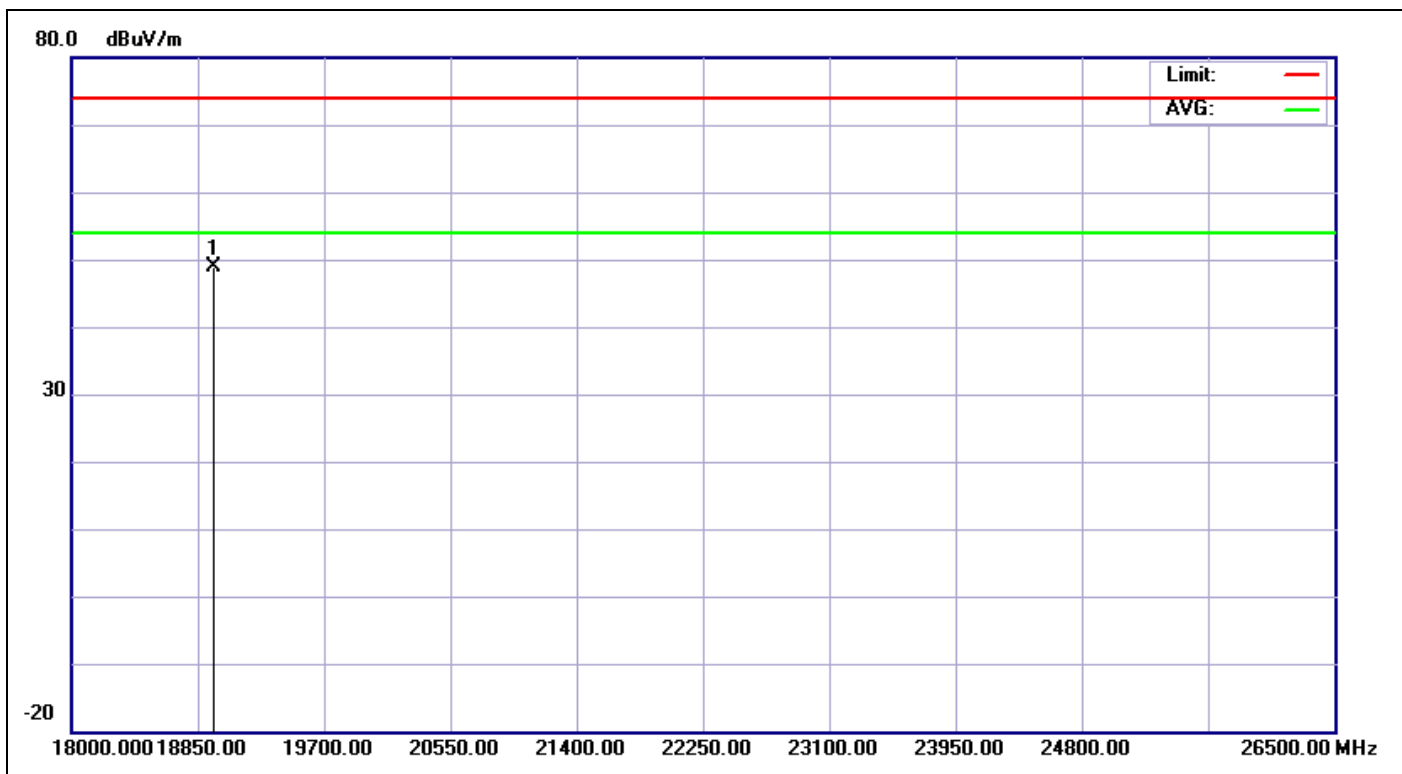
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21337.340	29.49	19.18	48.67	74.00	-25.33	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:30:02

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

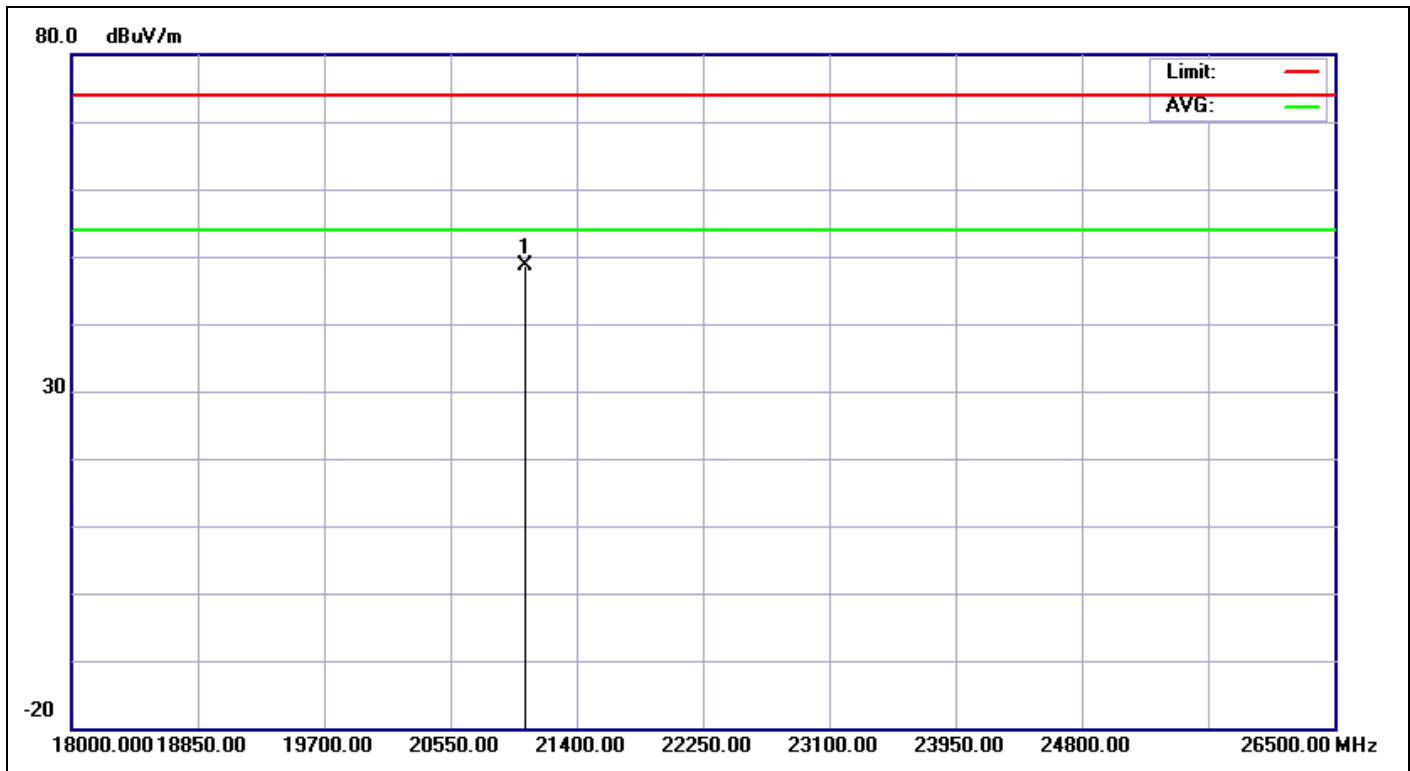
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18953.526	29.84	19.02	48.86	74.00	-25.14	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:30:30

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

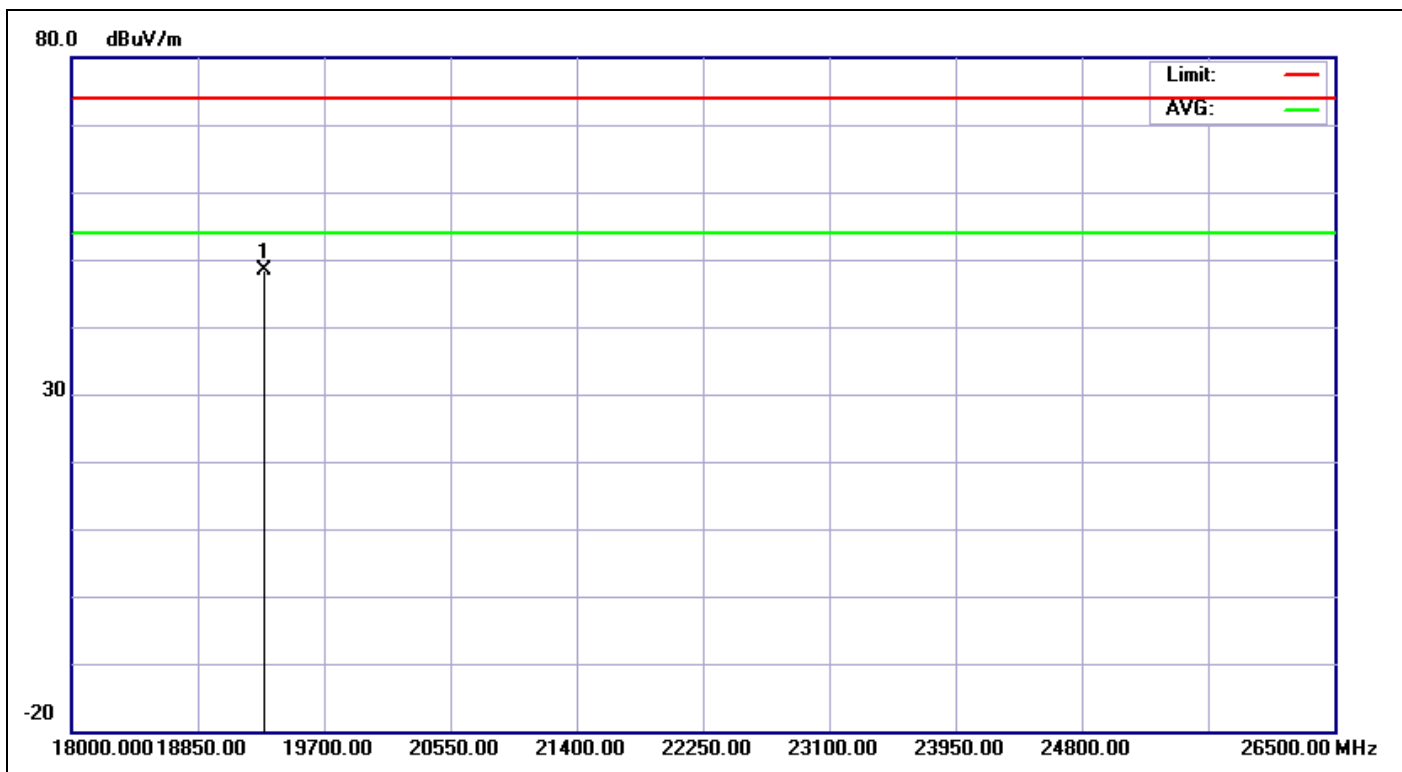
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21051.282	29.56	19.02	48.58	74.00	-25.42	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:31:00

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

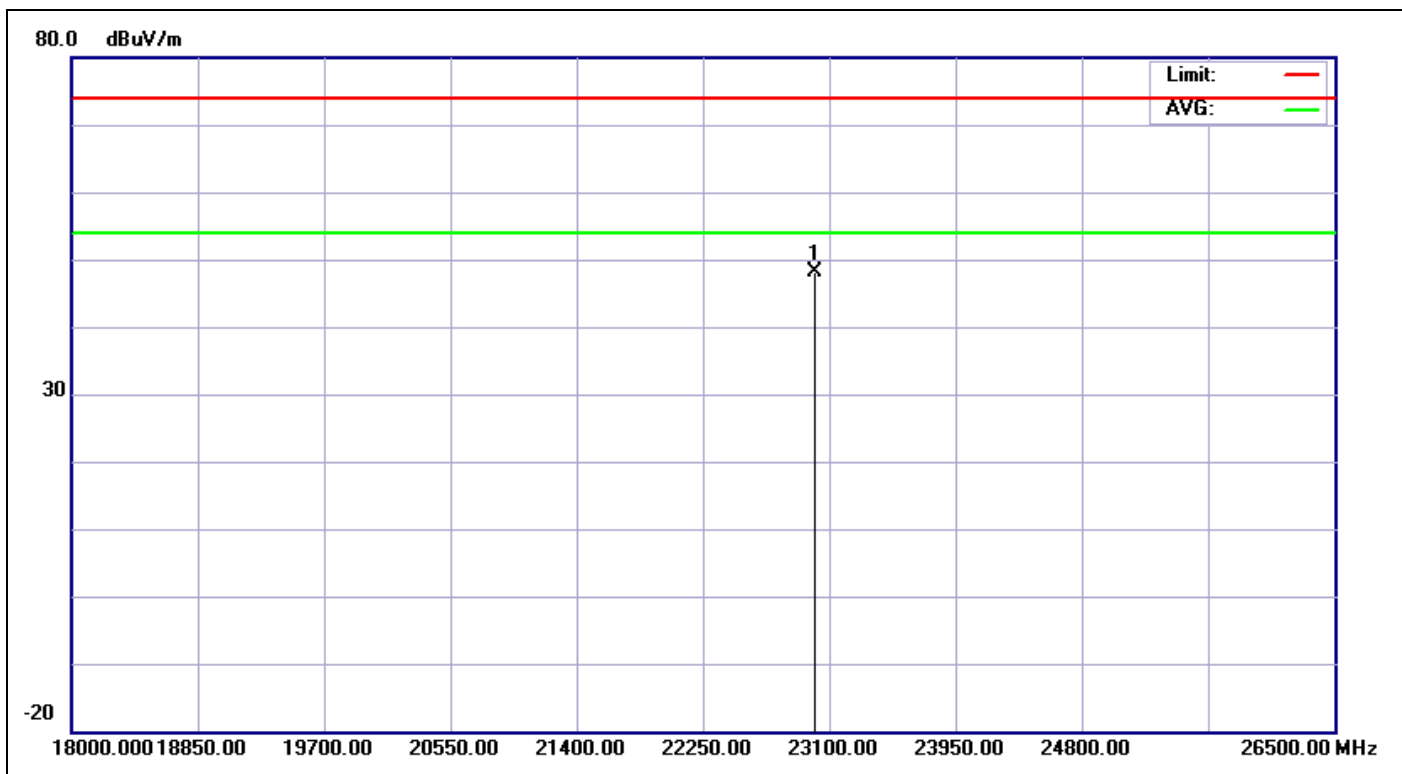
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19294.071	29.33	19.09	48.42	74.00	-25.58	peak			



Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/5/1 PM 01:31:27

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 20(°C)/57%

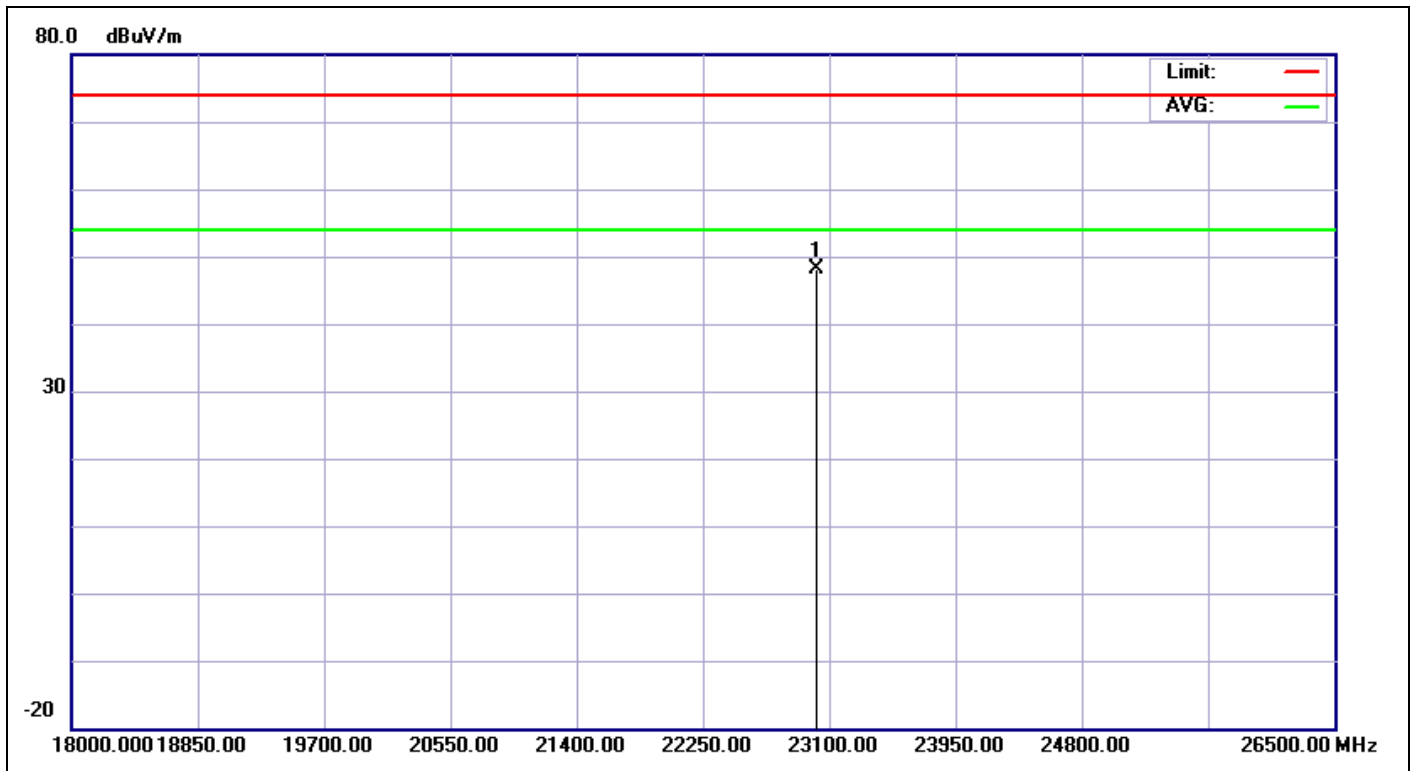
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode: CH2480

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22999.199	30.28	17.92	48.20	74.00	-25.80	peak			



Service No.: 114008287_AT357A
 Test Standard: FCC above 1G PEAK
 Test item: Radiation Emission
 Applicant: AAC
 Product: ZigBee module
 Model No.: AT357A
 Test Mode: CH2480

Test Distance: 3M
 Ant. Polarization: Vertical
 Test Time: 2013/5/1 PM 01:31:51
 Test Rating: DC 3V
 Temp.(°C)/Hum.(%): 20(°C)/57%
 Test Engineer: Hugo Chang

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23012.821	30.27	17.91	48.18	74.00	-25.82	peak			

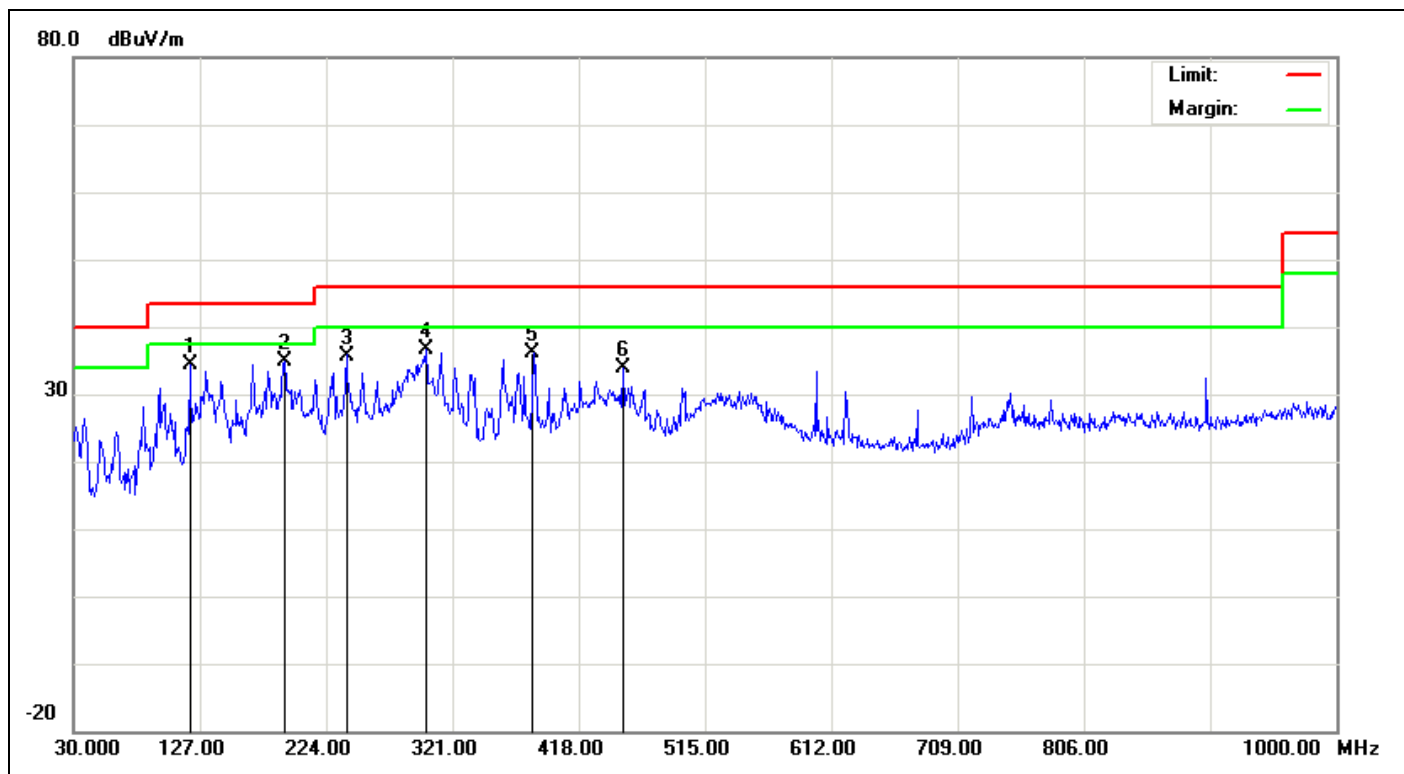
Spurious Emissions, TX Mode, 30M-1G



TUV Taiwan

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Service No.: 114008287_AT357A

Test Distance: 3M

Test Standard: FCC Class B 3M Radiation

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/5/1 AM 10:39:07

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 23(°C)/56%

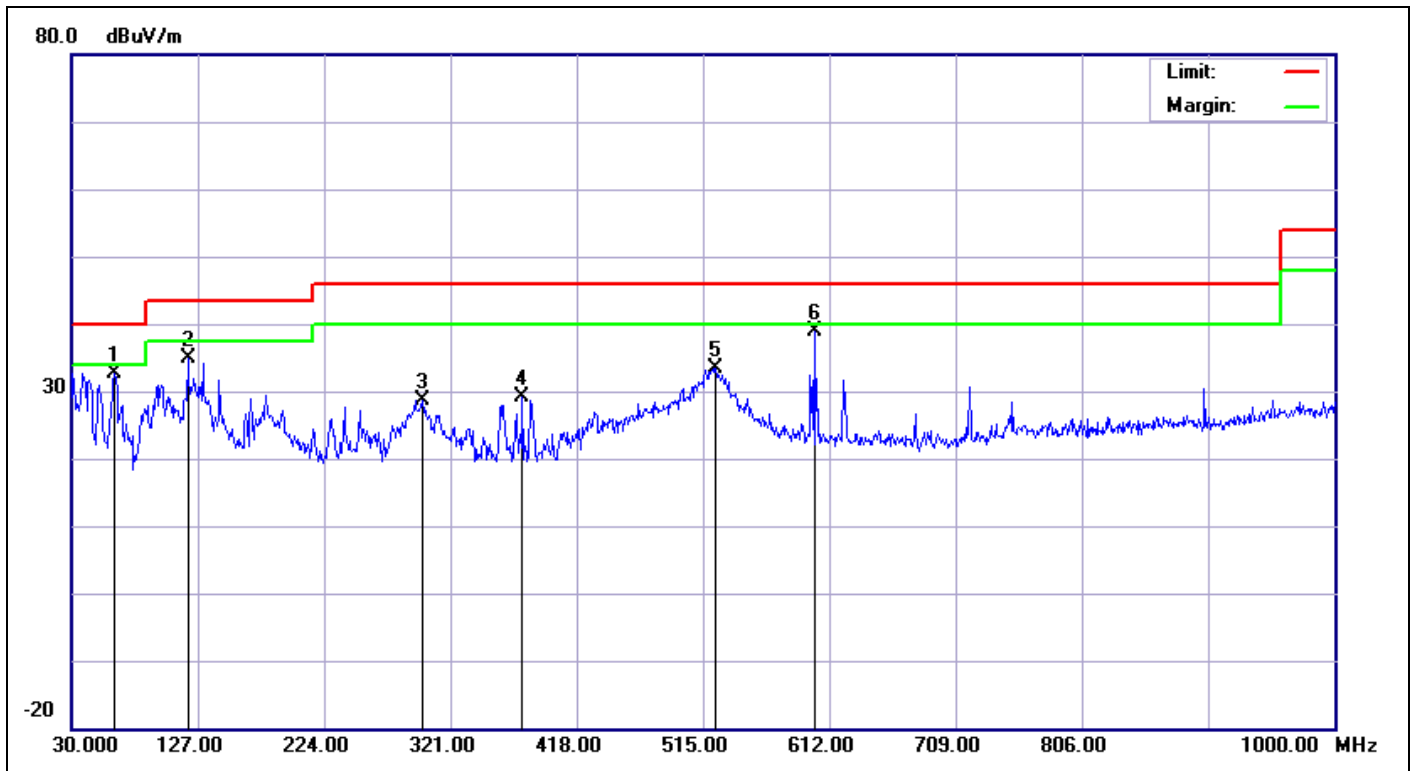
Model No.: AT357A

Test Engineer: Hugo Chang

Test Mode:

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	119.2400	-13.35	47.73	34.38	43.50	-9.12	QP			
2	191.9900	-15.49	50.38	34.89	43.50	-8.61	QP			
3	239.5200	-12.75	48.50	35.75	46.00	-10.25	QP			
4	300.6300	-10.36	47.06	36.70	46.00	-9.30	QP			
5	383.0799	-8.85	45.07	36.22	46.00	-9.78	QP			
6	451.9500	-7.87	41.83	33.96	46.00	-12.04	QP			



Service No.:	114008287_AT357A	Test Distance:	3M
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2013/5/1 AM 10:41:59
Applicant:	AAC	Test Rating:	DC 3V
Product:	ZigBee module	Temp.(°C)/Hum.(%):	23(°C)/56%
Model No.:	AT357A	Test Engineer:	Hugo Chang
Test Mode:			
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	62.9800	-19.37	52.10	32.73	40.00	-7.27	QP			
2	119.2400	-13.35	48.28	34.93	43.50	-8.57	QP			
3	299.6600	-10.39	39.04	28.65	46.00	-17.35	QP			
4	376.2900	-8.98	37.99	29.01	46.00	-16.99	QP			
5	524.7000	-7.06	40.54	33.48	46.00	-12.52	QP			
6	600.3600	-5.96	44.86	38.90	46.00	-7.10	QP			